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Revision of Late Permian nonmarine bivalves of the genus Verneuilunio Starobogatov, 1987 and its type species Naiadites verneuili Amalitzky, 1892

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Abstract

© 2015, Pleiades Publishing, Ltd. The genus Verneuilunio Starobogatov, 1987 (with the type species Naiadites verneuili Amalitzky, 1892) was distinguished from the genus Palaeanodonta Amalitzky, 1895 based on the differences in the hinge line, which were recognized using published data. Both genera were included in the family Palaeanodontidae Modell, 1964, which the author regarded as a subjective synonym of the family Palaeomutelidae Lahusen, 1897 (=Palaeomutelidae Weir, 1969). Revision of the collection of V.P. Amalitzky performed by the authors has shown that the initial diagnosis of the genus contains certain inaccuracy complicating identification and assignment to higher-rank taxa. The present study improves the diagnosis of the genus Verneuilunio and provides a detailed description of its type species Naiadites verneuili Amalitzy, 1892. Based on the presence of the duplivincular, slightly amphidet ligament, the genus Verneuilunio is referred to the family Naiaditidae Scarlato et Starobogatov, 1979. This character sharply distinguishes this genus from other co-occurring Unio-like genera of Late Permian nonmarine bivalves, i.e., Palaeomutela Amalitzky, 1892, Palaeanodonta Amalitzky, 1895, Oligodontella Gusev, 1963, and Opokiella Plotnikov, 1949. Verneuilunio is most similar in appearance to atypical Anthraconaia Trueman et Weir, 1946, which is characterized by Unio-like outline and widespread in the Upper Carboniferous. Data processing of morphometric parameters of Verneuilunio verneuili Amalitzky, 1892 and A. pruvosti (Tschernyshew, 1931), which is most similar to it in external outline has revealed statistically significant distinctions in elongation of the posterior shell end. According to available data, the geographical range of Verneuilunio is restricted to the central part of the East European Platform and its stratigraphic range falls in the lower substage of the Severodvinian Stage (=Early Capitanian).

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Keywords

Late Permian, stratigraphy, Verneuilunio nonmarine bivalves